



MSc Chemistry Curriculum

FIRST YEAR (Analytical Chemistry & Organic Chemistry)

Semester - I : Theory Courses

Sr. No.	Course Name	Credits
1	Basics of Analytical Chemistry	3
2	Aromaticity & Asymmetric Synthesis	3
3	Surface Chemistry, Electrochemistry & Statistical Thermodynamics	3
4	Quantum Mechanics & Metal Complexes	3
5	Spectroscopy	3
6	Computer Applications in Chemistry (Elective)	3
7	Foundations of Education (Elective)	1
8	Learner and Learning (Elective)	2

Semester - I : Practical Courses

Sr. No.	Course Name	Credits
1	Analytical Chemistry Laboratory - I	2
2	Organic Chemistry Laboratory - I	2
3	Physical Chemistry Laboratory - I	2
4	Inorganic Chemistry Laboratory - I	2

Semester - II : Theory Courses

Sr. No.	Course Name	Credits
1	Fundamental Analytical Techniques	3
2	Applied Mechanics	4
3	Organic Reaction Mechanisms	3
4	Chemical Kinetics, Macromolecules & Nuclear Chemistry	3
5	Chemical Bonding & Organometallic Compounds	3
6	Solid State Chemistry	3
7	Management Basics (Elective)	3
8	Teaching Approaches and Strategies (Elective)	2
9	Educational Technology and Instructional Design	1

Semester - II : Practical Courses

Sr. No.	Course Name	Credits
1	Analytical Chemistry Laboratory - II	2
2	Organic Chemistry Laboratory - II	2
3	Physical Chemistry Laboratory - II	2
4	Inorganic Chemistry Laboratory - II	2

SECOND YEAR (Analytical Chemistry)**Semester - III : Theory Courses**

Sr. No.	Course Name	Credits
1	Spectrochemical Analysis - I	3
2	Spectrochemical Analysis - II and Kinetic Methods of Analysis	3
3	Separation Techniques	3
4	Chemistry Elective - I	2
5	Chemistry Elective - II	2

Semester -III : Practical Courses

Sr. No.	Course Name	Credits
1	Analytical Chemistry Laboratory - III	3
2	Analytical Chemistry Laboratory - IV	3

CHEMISTRY ELECTIVES (ANY TWO)

Sr. No.	Course Name	Credits
1	Materials Chemistry	2
2	Molecular Reaction Dynamics	2
3	Clinical Chemistry - I	2
4	Bioorganic Chemistry	2
5	Natural Products - I	2
6	Heterocycles and Vitamins	2
7	Patent Law, Patent Drafting and Filing	2

Semester - IV: Theory Courses

Sr. No.	Course Name	Credits
1	Electroanalytical Methods	3
2	Organic Industrial Analysis	3
3	Organic Analytical Chemistry	3
4	Chemistry Elective - III	2
5	Chemistry Elective - IV	2

Research Work

Sr. No.	Course Name	Credits
1	Dissertation	5

Comprehensive Viva

Sr. No.	Course Name	Credits
1	Comprehensive Viva - voce	1

SECOND YEAR (Organic Chemistry)

Semester - III : Theory Courses		
Sr. No.	Course Name	Credits
1	Organic Spectroscopy	3
2	Organic Synthesis and Reagents	3
3	Advanced Synthetic Methods	3
4	Chemistry Elective - I	2
5	Chemistry Elective - II	2

Semester - III : Practical Courses		
Sr. No.	Course Name	Credits
1	Organic Chemistry Laboratory - III	3
2	Organic Chemistry Laboratory - IV	3

CHEMISTRY ELECTIVES (ANY TWO)		
Sr. No.	Course Name	Credits
1	Materials Chemistry	2
2	Molecular Reaction Dynamics	2
3	Clinical Chemistry - I	2
4	Bioorganic Chemistry	2
5	Natural Products - I	2
6	Heterocycles and Vitamins	2
7	Patent Law, Patent Drafting and Filing	2

Semester - IV : Theory Courses		
Sr. No.	Course Name	Credits
1	Photo and Stereochemistry	3
2	Green Synthesis	3
3	Pericyclic and Free Radical Reactions	3
4	Chemistry Elective - III	2
5	Chemistry Elective - IV	2

Semester - IV : Research Work

Sr. No.	Course Name	Credits
1	Dissertation	5

Semester - IV : Comprehensive Viva

Sr. No.	Course Name	Credits
1	Comprehensive Viva - voce	1

CHEMISTRY ELECTIVES (ANY TWO)

Sr. No.	Course Name	Credits
1	Nano Materials	2
2	Forensic Analysis	2
3	Clinical Chemistry - II	2
4	Industrial Chemical Analysis and Quality Control	2
5	Phytochemistry	2
6	Natural Products - II	2